

StLA Data and Public Policy Questions Data - Working Paper 2

The Impact of Federal Funding on State Library Agencies: The LSCA to LSTA Transition

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The views, opinions and recommendations expressed in this report are those of the authors and do not necessarily reflect official position or policy of the U.S. National Commission on Libraries and Information Science or the National Center for Education Statistics in the U.S. Department of Education. The NCES Library Statistics Program commends the Steering Committee for initiating this analysis of survey data on StLA finance. NCES encourages secondary analyses of data collected by its survey programs.

The paper used in this publication meets the minimum requirement of the American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials.

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Preface

Since 1993, Chief Officers of State Library Agencies (COSLA) have, each year, provided data on state library services, resources, income, and expenditures in an annual survey conducted by the National Center for Education Statistics (NCES) in the U.S. Department of Education in what is known as the “Survey of State Library Agencies.” The survey is a cooperative undertaking of COSLA, NCES, and the Statistics and Surveys Office of the National Commission on Libraries and Information Services (NCLIS).

The Survey is designed to meet the needs of five groups:

- Chief officers of state library agencies and their staffs
- Policy makers in the executive and legislative branches of Federal and State governments
- Government and library administrators at Federal, State, and local levels,
- The American Library Association and its members and customers, members of the national press, and staff of other education organizations
- Library and public policy researchers.

NCES and its partners in the survey are assisted by a State Library Agency (StLA) Steering Committee that advises on the survey and policies relating to it. The Chair of the COSLA Research and Statistics Committee and three other state librarians, other representatives of library and information communities are members of the Steering Committee.

In March 2000, the Steering Committee embarked on upon a series of discussions and analyses of the quality and usefulness of survey data for public policy. In March 2001, the Steering Committee published “StLA Data and Public Policy questions: Working Paper 1 – Governance” <http://www.nclis.gov/libraries/lsp/StLAWorkingPaper1.pdf>

In December 2001, with the encouragement of NCES, the Steering Committee requested an analysis of survey data on StLA finance, to be published as “Working Paper 2.”

Dr. Bruce Kingma, Associate Dean of Academic Affairs and Associate Professor in the School of Information Studies at Syracuse University (and member of the StLA Steering Committee) agreed in early 2002 to undertake the study and completion of Working Paper 2. He did his research with the oversight of a six-member policy group drawn from the Steering Committee. Federal members of the policy group were Elaine Kroe, Jeffrey Williams, and Denise Davis. Appointed Steering Committee members of the Policy Group were Joseph F. Shubert, Barratt Wilkins, and

Alan Zimmerman. The Policy Group advised on the development of the policy questions and design of the study.

The Steering Committee reviewed a draft of the report in March 2002. The COSLA Research and Statistics Committee reviewed early drafts of the report, and each Chief Officer received, and had the opportunity to comment on, the final draft of the report.

Discussion and responses from these reviewers helped shape the final Working Paper 2 and will be helpful in continuing evaluation and testing of the StLA data for public policy research. Additional comments on this document may be sent to the StLA Steering Committee c/o Denise Davis at ddavis@nclis.gov.

Finally, researchers and policy makers using this report should take into account that state library agencies are as diverse as the states. They have different organizational placements, historical contexts, and varying programs, services and financial support. Each state library agency's use of federal aid to libraries must be viewed in its own context and questions about any seeming anomalies should be referred to the appropriate state's Chief Officer. For example, a factor influencing rankings of state's concerning the receipt of federal aid is that the NCES definition for reporting annual federal aid receipts changed from the actual allocation of federal aid by the administering federal agency during the year to one of reporting draws of federal aid. Some states did not draw their full allotment, but waited until the following year. This caused considerable swings in rankings of some states when compared with other states.

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Abstract

This paper investigates the impact on state library agencies during the transition from LSCA to LSTA library funding in FY1997. Financial data from the last three years of LSCA funding (FY1995-FY1997) is compared to the first three years of LSTA funding (FY1998-2000).

There are three financial-based policy questions that the data address:

1. How have federal funds under LSTA and LSCA affected the operations and services of state library agencies including the effect on statewide services, financial assistance to libraries, and state library staffing?
2. Have LSTA funds (as contrasted with LSCA funds) resulted in increased financial assistance to various types of libraries in addition to public libraries?
3. Have federal funds displaced state funds? And what are common characteristics of states with high levels of funding, as measured in total dollars and per capita?

The major findings of this study are that 1) LSTA funding for state library agencies was significantly greater than LSCA funding; 2) despite this increase in funding, the share of total state library funding from the federal government declined; 3) funding for statewide services and financial assistance to libraries by state library agencies increased by a greater proportion than federal funding increases; 4) funding increased for a broader spectrum of libraries (e.g., academic, school libraries) under LSTA; and 5) regression analysis shows that state library agency funding from sources other than LSTA also increased during this period.

Introduction

For more than half a century, the states and the federal government have been partners in improving library service to all Americans. In 1956, Congress enacted and President Eisenhower signed, the "Federal Library Services Act" (LSA). The act authorized a five-year demonstration of extended and improved public library service in rural areas. This was the first federal education aid program to the states since authorization of vocational education programs to meet the needs of World War I veterans.

In 1964, Congress amended the library program to establish the Library Services and Construction Act (LSCA) to include funds for improving services in urban areas, construction of public libraries, and other services. Later, Congress included a grant program for encouraging cooperation among different types of libraries.

In FY1996, Congress enacted a new, simpler, Library Services and Technology Act (LSTA) to replace LSCA. LSTA for the first time focused on information access through technology and resources sharing, and providing services to underserved populations.¹ The LSTA legislation was enacted in 1996 with initial funding starting in the fall of 1997.

LSTA funding for states is based on a formula that includes a fixed amount plus additional funding based on population. The law requires a 34 percent match from states; every two dollars of LSTA funding must be matched by one dollar of state funding. In addition, the LSTA includes maintenance of effort requirements to insure that the additional federal funding does not result in an offsetting decrease in state funding.²

This study examines the changes in state library income and expenditures that occurred between the FY1995-FY1997 (LSCA) fiscal years and FY1998-2000 (LSTA) fiscal years.³ Throughout this report financial statistics compare the average value for fiscal years 1995-1997 with the average value for fiscal years 1997-2000. The comparison of averages is a better indicator of the impact of LSTA on financial and other statistics than comparing individual years. One-year aberrant changes in the data that may lead to false conclusions will have a muted effect on a three-year average. In the appendices, the calculated percentage change is always the change between the three LSTA years (1998-2000) and the last three LSCA years (1995-1997).

A note on the provenance and purpose of this report: Data in this report are based on data the 50 state library agencies and the District of Columbia provided to the National Center for Education Statistics for publication in the annual Survey of State Library Agencies (StLA). The survey is a cooperative effort of the Chief Officers of State Library Agencies (COSLA), the U.S. National Commission on Libraries and Information Science (NCLIS), the National Center for Education Statistics (NCES), and the U.S. Census Bureau. The study is intended to assist the StLA Steering Committee in its continuing review of the quality and usefulness of StLA Survey data with a particular focus on financial data.⁴

¹ <http://www.ala.org/washoff/lstaqa.html>

² http://www.ims.gov/whatsnew/leg/leg_mlsa.pdf

³ Users of this report may also be interested in reports prepared by Bertot and McClure [<http://www.nclis.gov/statsurv/2000plo.pdf>] measuring internet access and technology resources in libraries³ inasmuch as LSTA has provided additional funding to libraries for these services.

⁴ NCES State Library Agency E.D. Tabs FY2000.

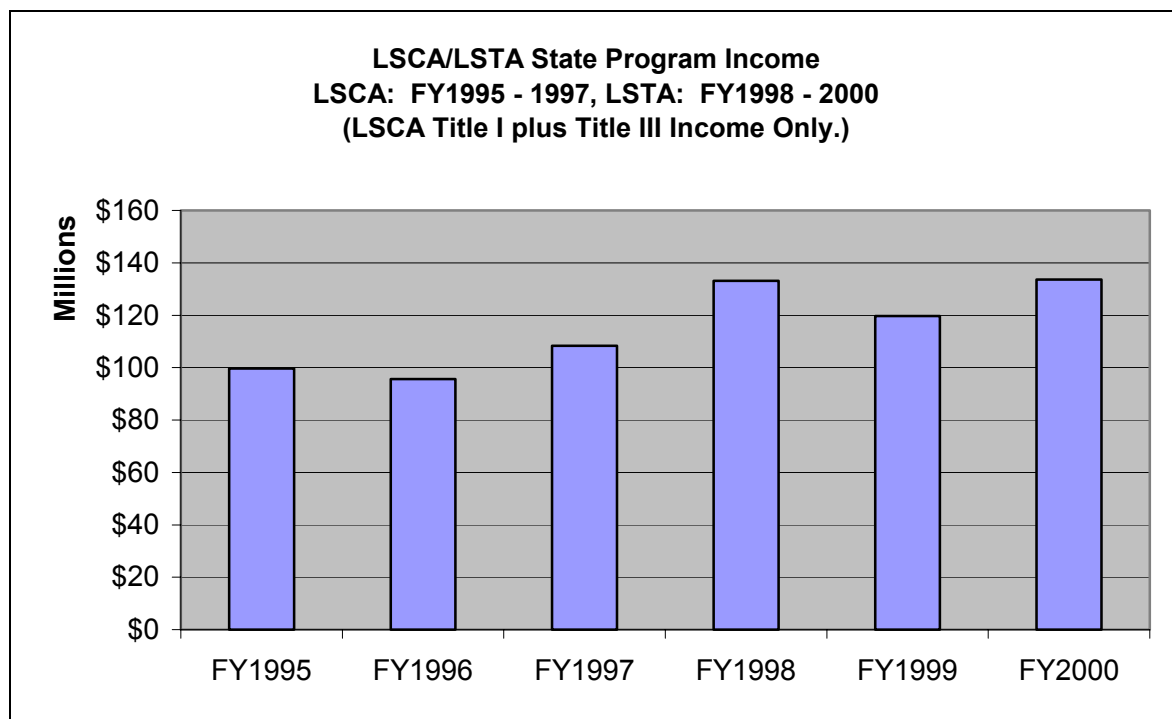
<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002302>. Data files used in this report are available at <http://nces.ed.gov/pubsearch/getpubcats.asp?sid=041#015>

State Library Income: FY1995 – FY2000

On average, federal funding under the LSTA program between FY1998 - FY2000 was 27 percent higher than LSCA Title I and Title III funding from FY1995 - FY1997.⁵ In FY1999 LSTA funding decreased relative to FY1998 although it was still higher than the LSCA years.

There were significant increases in both state and federal income over the six-year period. State Library Agency (StLA) income from state sources in FY1995 was \$618,170,000 (82.1% of StLA total income). In the same year, StLA income from federal LSCA funds was \$117,640,000 (16.3% of total income); and “other income” was \$12,351,000 (1.6% of total income). The state portion of total income in FY2000 rose to 84.6 percent; the federal declined to 13.7 percent; and “other” to 1.8 percent of the total. Dollars from the two sources had increased, but the proportion of the federal LSTA income to state income was smaller in FY2000 than it had been in FY1995.

Figure 1



LSCA and LSTA funding is less than 15 percent of total state library funding. It is important to note that the LSTA/LSCA funding is a state administered federal program, as such funding is formula driven and each state receives an allotment and does not represent discretionary income a state may receive. Even with sharp changes in federal funding (FY1998-FY1999) at 15 percent of the total, these changes are smoothed when examining total funding levels (figure 2).

In the six years between FY1995 to FY2000, the total income had risen from \$753 million in FY1995 to over \$1 billion in FY2000.

⁵ FY reported are state fiscal years as reported to NCES. For a more detailed discussion of income reported by states refer to the FY2000 E.D.Tabs at <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002302>

Figure 2

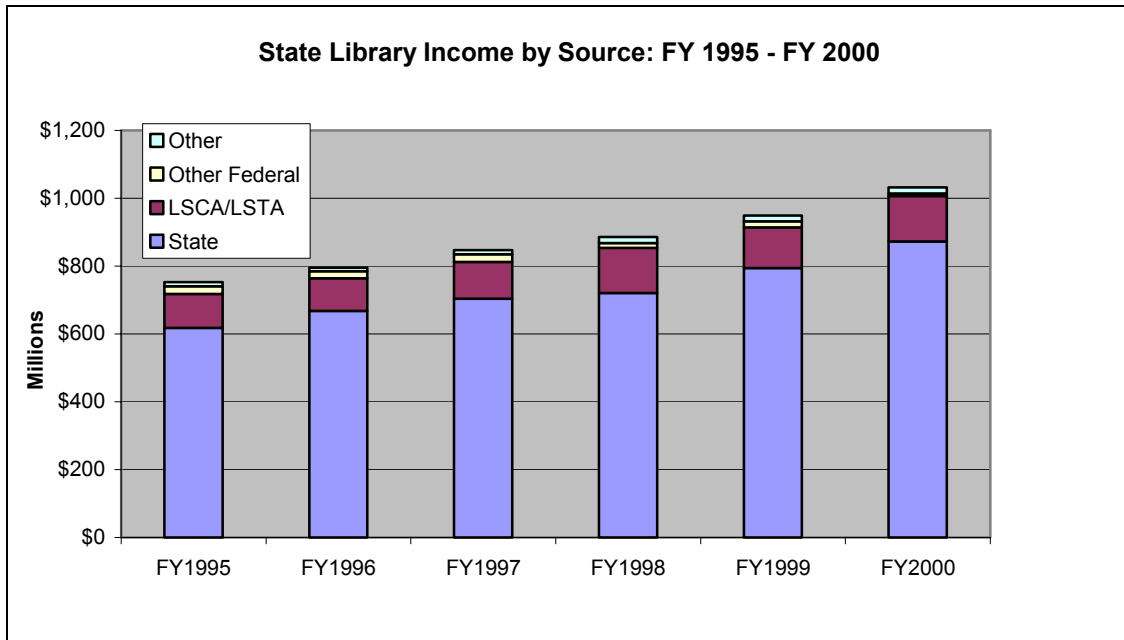
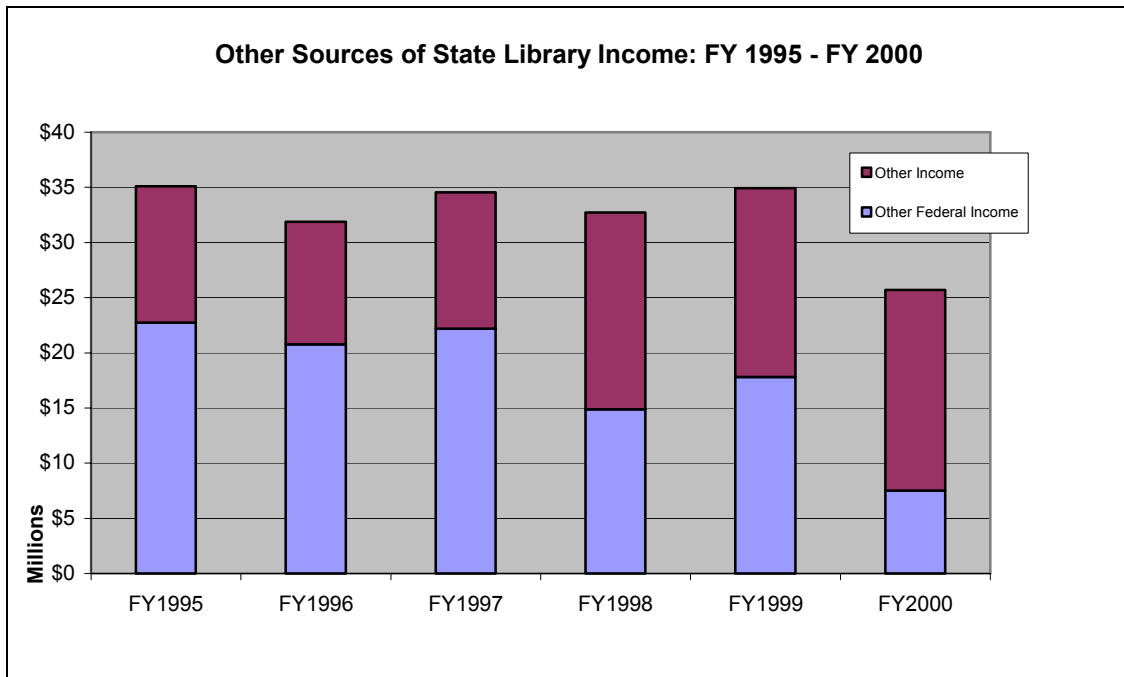


Figure 3



State Library Agencies also receive income from other non-LSTA federal sources and other non-state, non-federal sources as shown in figure 3. These sources are a small percentage of total income. Other federal income includes grants from the National Endowment of the Humanities, National Historical Publications and Records Commission, LSTA National Leadership Grants, and LSCA Title II grants. This income has fallen from over \$20 million in FY1995 to under \$10 million in FY2000. Other non-federal, non-state income includes income from public sources, such as local, regional, or multi-jurisdictional sources; income from private sources, such as foundations, corporations, Friends groups, and individuals; and state library agency generated income, such as fines and fees for services. This includes the grants from the Bill and Melinda Gates Foundation.

State Variations in Patterns of Change in Income

Increases in overall funding and LSTA/LSCA funding varied from state to state. Changes in income are driven by federal and state appropriations, and, to some extent by success in attracting or generating “other income” as described in the previous chapter. In this section, we report on income changes, in dollars and in per capita in four groups of states⁶:

- Five states with the greatest growth in total LSTA dollars
- Five states with the least growth in LSTA dollars
- Five states with the greatest growth in LSTA dollars measured in per capita
- Five states with the least growth in LSTA dollars measured in per capita

It is important to view these state comparisons with caution. States can spend these resources in the year of the appropriation or the following year, making annual comparisons problematic. In addition, data is reported by state library agencies using state fiscal years that may or may not coincide with the federal fiscal year when appropriations are made. Using average changes from the three-year LSCA period in the data to the three-year LSTA period should diminish but not eliminate these effects.

Several states reported greater increases in their federal LSTA funding than the 27 percent increase nationally cited in the previous section. Louisiana, Missouri, Nevada, Massachusetts, and Rhode Island saw increases in overall funding greater than their LSTA funding increases.

⁶ Note: LSTA/LSCA income reported uses funds drawn down in FY1997-2000 and may include funds appropriated in previous years. Consult the E.D. Tab definitions in individual years for further clarification. <http://nces.ed.gov/pubsearch/getpubcats.asp?sid=041#054> Population numbers are from the US Census for individual years. For population data see <http://www.census.gov/population/www> Data on Hawaii and District of Columbia are excluded from all tables in the body of this report. Hawaii and DC data are shown in the appendices.

Table 1

Top Five, Bottom Five, Average State Libraries Income Changes (FY1995-97 to FY1998-2000)					
LSTA/LSCA		All Federal		All Sources	
GA	77%	GA	77%	LA	80%
WV	68%	AZ	63%	MO	65%
MO	53%	UT	43%	NV	57%
IA	48%	OK	43%	MA	47%
OR	46%	SC	42%	RI	44%
Average (all states)	27%		16%		20%
TN	10%	RI	-1%	KY	4%
MA	9%	ID	-10%	ND	3%
ID	6%	WV	-19%	ID	3%
NY	3%	AK	-24%	AK	0%
AR	-2%	CO	-33%	DE	-12%

Some states reported increases in funding below the 27 percent national average. Arkansas experienced a decrease in funding from the LSTA program. Massachusetts had the fourth lowest increase in LSTA funding but one of the highest percentage increases in funding from all sources.

States population also changed during this period. Since the LSTA formula is, in large part, driven by state population, it is important to look at per capita funding changes. A state may see a decrease in funding as a result of a decrease in population or vice versa.

Table 2

Top Five, Bottom Five, Average State Libraries Income Changes per Capita (FY1995-97 to FY1998-2000)					
LSTA/LSCA		All Federal		All Sources	
WV	69%	GA	66%	LA	77%
GA	66%	AZ	50%	MO	60%
MO	50%	OK	39%	MA	44%
IA	46%	WI	38%	RI	41%
OR	39%	SC	36%	SC	38%
Average (all states)	18%		7%		11%
MA	7%	NH	-5%	KY	0%
TN	5%	ID	-15%	AK	-2%
NY	2%	WV	-18%	CO	-3%
ID	1%	AK	-26%	ID	-3%
AR	-5%	CO	-37%	DE	-16%

Changes in funding per capita reflect similar results to changes in funding. The same five states that experienced the highest percentage increase in LSTA/LSCA funding also had the highest percentage increases in LSTA/LSCA funding per capita. A complete list of the percentage

changes from LSCA to LSTA and other sources of funding is shown in [Appendix A](#). [Appendix B](#) ranks states from highest to lowest for funding and funding changes.

Despite maintenance of effort requirements in the LSTA legislation, there is always the possibility that increases in federal funding are offset by decreases in funding from other sources. For most states there was an increase in funding from LSTA and funding from state and other sources. However, it is important to look at this state by state to determine if some experienced decreased funding from other sources for their state libraries.

Remarkably, Missouri, Oregon, Nevada, and North Carolina had increases in both non-federal funding and LSTA funding greater than average. However, of the top ten states in percentage increases in funding from LSTA, Delaware experienced a decrease in funding from non-federal sources. Delaware fared better when we examine funding per capita.

Table 3

Top Ten LSTA/LSCA States (FY1995-97 to FY1998-2000)					
Changes in Income			Changes in Income per Capita		
LSTA/LSCA		Non-federal sources	LSTA/LSCA		Non-federal sources
GA	77%	10%	WV	69%	26%
WV	68%	25%	GA	66%	3%
MO	53%	105%	MO	50%	99%
IA	48%	9%	IA	46%	8%
OR	46%	23%	OR	39%	17%
NV	45%	69%	WI	38%	8%
DE	43%	-20%	DE	37%	-23%
WI	41%	10%	AL	34%	15%
NC	38%	31%	IN	33%	29%
AL	37%	17%	ND	31%	3%
Average (all states)	27%	21%		18%	12%

Use of LSTA and LSCA Funds for Statewide Services and Financial Assistance: FY1995 – FY2000

Each state decides how to allocate its LSTA funds between grants (in the NCES StLA survey, these are reported as “financial assistance to libraries”) and funds expended directly by the state library agency (in the NCES StLA survey, these are reported as “statewide services.”)

Both grants for financial assistance to libraries and statewide services must be consistent with the primary emphases of LSTA – information access through technology and resources sharing, and providing services to underserved populations.⁷ Administration expenses are limited by the LSTA legislation and are reported separately.

Each state must have a five-year plan for the use of federal funds. Often financial assistance to libraries and statewide services are complementary parts of such comprehensive planning.

⁷ <http://www.ala.org/washoff/lstapass.html>

Data on statewide service expenditures was collected in two different ways during the LSCA years and the LSTA years. Reported expenditures for 1995-197 include sub-grants made to libraries providing statewide services. While reported expenditures for 1998-2000 exclude these sub-grants. Therefore, reported expenditures for the 1998-2000 period underreport the spending on statewide services by these sub-grants.

Reported statewide services expenditures for the three LSCA years (FY 1995, 1999, and 1997) totaled \$120 million; those for the three LSTA years (FY1998, 1999, and 2000) totaled \$145 million. Reported expenditures on statewide services increased by an average of 21 percent (\$25 million), as shown in figure 4. Spending under LSTA on statewide services including sub-grants to libraries providing these services is actually higher than this.

The financial assistance to libraries for the three LSCA years (FY 1995, 1999, and 1997) totaled \$228.8 million. The financial assistance to libraries for the three LSTA years (FY 1995, 1999, and 1997) totaled \$234.7 million. Expenditures for financial assistance to libraries increased by 21 percent (almost \$200 million) during the period FY1995-1997 to FY1998-2000, as shown in figure 5.

State funds for financial assistance to libraries outpaced both LSCA and LSTA funds. In the three LSTA years (FY1998, 1999, and 2000) financial assistance to libraries from all sources totaled \$234.7 million. Financial assistance to libraries from all sources in the three LSCA years totaled \$1,802,264,304; for the three LSTA years the total from all sources was \$1,937,729. For detail on expenditures for financial assistance to libraries see Appendices B, C, and D.

Figure 4

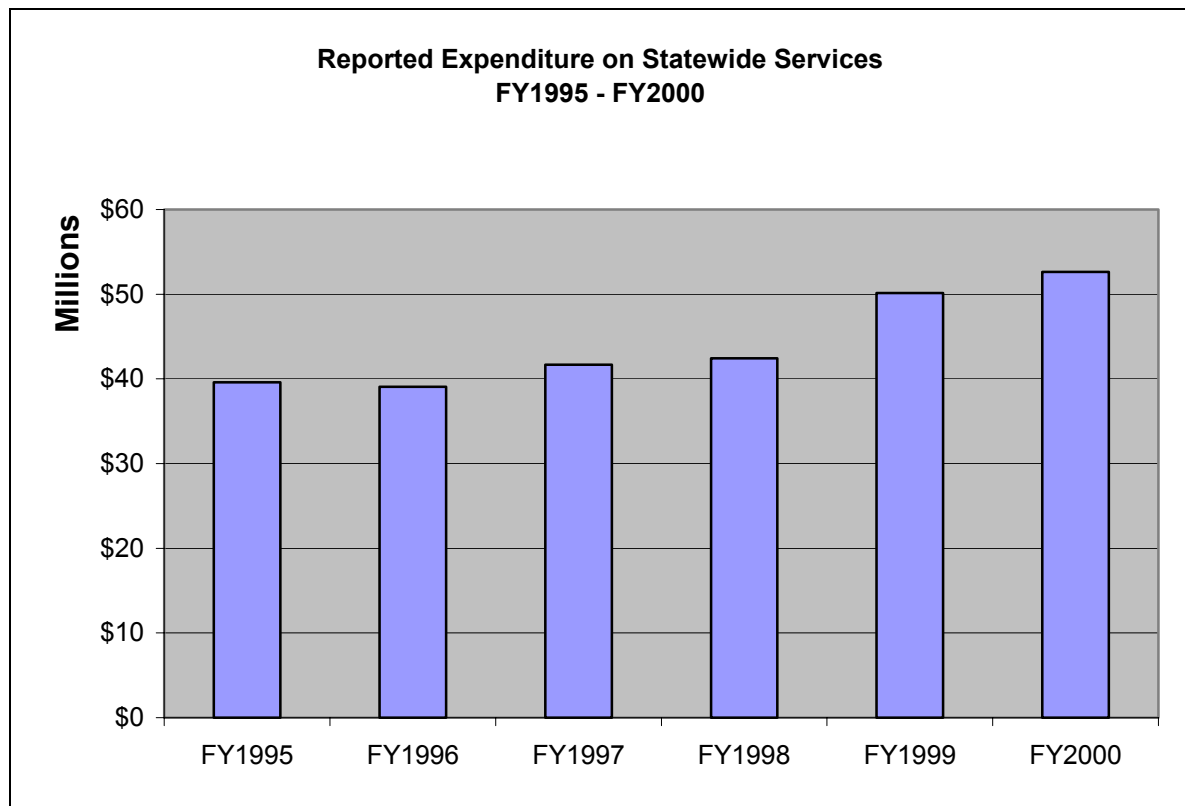
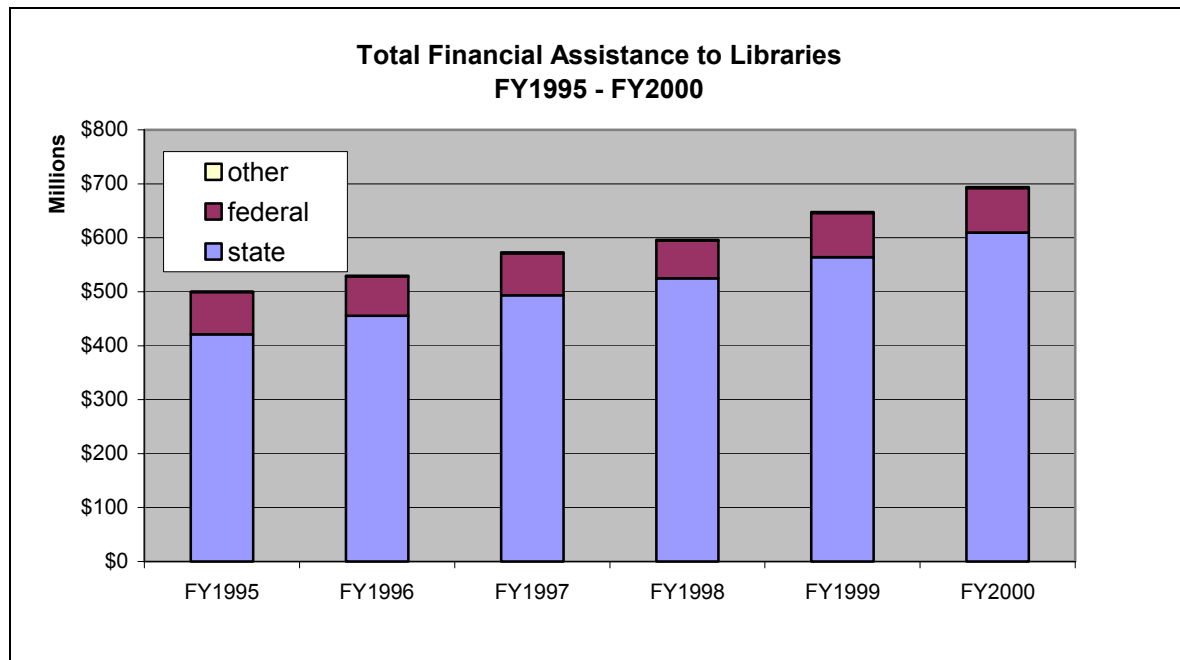


Figure 5



The changes for financial assistance and statewide services varied by state. Some state libraries showed greater than average increases in statewide services (e.g., electronic database shared by all libraries within a state). Other state libraries showed greater than average increases in financial assistance to libraries. Detail on expenditures for financial assistance to libraries and statewide services are provided in [Appendix C](#). Tables in [Appendix D](#) provide state rankings of expenditures for financial assistance and statewide services. Changes in expenditures for financial assistance for various types of libraries and purposes are shown in [Appendix F](#).

Income Elasticities for Financial Assistance and Statewide Services

With increases in income all types of expenditures are likely to increase. Within the constraints of the legislation, state library agencies must determine which services to increase spending on and the amount of the increase.

A way to measure this is with an income elasticity measure of financial spending on an item relative to an increase in income.⁸ The ratio of the percentage change in spending on an item relative to the percentage change in income equals the elasticity of spending on that item.

$$E = \frac{\%change\$X}{\%change\$I}$$

⁸ Income elasticity is an economic term that describes how spending on an item changes when income changes. For example, if your income increases by 10 percent you would likely spend this increase on a variety of items; food, clothing, entertainment, etc. For some items—restaurant meals—you may increase your spending by greater than 10 percent. Other items you may increase your spending by less than 10 percent—groceries. The income elasticity shows how your spending will change in response to a change in income.

Items that have an elasticity greater than one indicate that a given percentage increase in income results in a higher percentage increase in spending on that item. Items that have an elasticity less than zero indicate that an increase in income resulted in a decrease in spending on an item. Items that have an elasticity between zero and one indicate that the percent spent on an item increased at a lower percentage than income increased.

The elasticity for statewide services and for financial assistance to libraries within a state was calculated for the LSTA/LSCA income increase and an overall change in state library income. The top five, bottom five, and average elasticity are shown here. The percentage change of income, statewide services, and financial assistance to libraries and elasticities are shown in [Appendix E](#).

Table 4

Top Five, Bottom Five, Average State Elasticity for Statewide Services (FY1995-97 to FY1998-2000)			
State	% Change SWS	%Change LSCA/LSTA	Elasticity
MI	1529%	29%	52.07
TX	895%	23%	39.40
AZ	149%	19%	7.66
KS	158%	21%	7.38
ID	62%	9%	6.55
Average (all states)	21%	18%	1.16
IN	33%	-72%	-2.18
AK	27%	-88%	-3.31
AR	-5%	23%	-4.60
IL	20%	-100%	-5.10
TN	5%	-41%	-8.03

On average, for every one percent increase in LSTA income to a state, there was an increase in expenditures on statewide services of 1.16 percent. Note that this is using data that underreports actual expenditures for 1998-2000. The actual percentage increase for expenditures for statewide services is higher than this. Michigan reported a 29 percent increase in LSCA/LSTA funding and an 1,529 percent increase in expenditures on statewide services, a ratio of 52 to 1.

Table 5

Top Five, Bottom Five, Average State Elasticity for Financial Assistance (FY1995-97 to FY1998-2000)			
State	% Change Fin Ast	% Change Income	Elasticity
AK	3%	0%	8.75
IA	191%	24%	7.99
SD	20%	5%	4.29
CO	20%	5%	3.93
OH	44%	16%	2.84
Average (all states)	21%	20%	1.06
DE	27%	-12%	-2.31
ID	-7%	3%	-2.70
WY	-31%	11%	-2.86
NM	-27%	8%	-3.53
VT	-38%	7%	-5.69

Financial assistance to libraries typically is funded from both state and federal funds, and in some instances from “other” funds. Therefore we calculate the income elasticity using the total income change.

For every one percent increase in income, on average there was an increase of financial assistance of 1.06 percent. Iowa State Library income increased by 24 percent while financial assistance to libraries in Iowa increased by 191 percent. A complete list of the income elasticities for statewide services and financial assistance are shown in [Appendix E](#).

Financial Assistance to Libraries by Type

Although financial assistance to libraries increased during this period, this assistance was not uniform among all library types. The intent of the LSTA legislation was to shift funding previously focused on public libraries to a broader distribution of libraries including public library systems, other individual libraries, multi-library systems, and single agencies. In addition, library construction funding under LSCA was dropped under LSTA.⁹

While financial assistance for public libraries from federal sources decreased during this period, overall financial assistance for public libraries showed modest gains. All other categories of library types had increases in funding from both federal sources and all income sources during this period. As expected, the largest gains under LSTA were for “single agency or library providing statewide services” and “other assistance”. (NCES defines the “other assistance” category as expenditures not reported under the six other categories listed in table 6.)

Significantly, the definition of “other assistance” includes school library media centers. Expenditures for both “single agencies” and “other assistance” increased considerably, although on a smaller federal funding base. Library construction funding from federal sources and all sources showed a significant decline

Table 6

Changes in Financial Assistance to Libraries (FY1995-97 to FY1998-2000)		
	Federal funding changes	Total funding changes
Individual Public Libraries	-23%	13%
Public Library Systems	6%	37%
Other Individual Libraries (e.g., academic)	57%	26%
Multitype Library Systems	48%	36%
Single Agency or Library Providing Statewide Services	196%	66%
Library Construction	-57%	-22%
Other Assistance (e.g., school library media centers)	579%	83%

State Library Staffing: FY1995 – FY2000

While the major focus of this paper on StLA data and the transition from LSCA to LSTA was funding statewide services and financial assistance to libraries, a host of questions can be asked

⁹ For exact definitions of library types see NCES State Library Agency E.D. Tabs FY2000. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002302>.

about the changes in state library agency services during these years. How is the networked environment in which libraries of all types work affecting the availability of books, serials, reference, and the ways in which library services are changing in the LSTA period? Is change taking place at a dramatic pace?

For example, the “Highlights” section of the NCES E.D. Tabs for State Library Agencies: Fiscal Year 2000 says:

- State library agencies in 46 states had combined expenditures for statewide database licensing over \$32.4 million. Of these, Texas has the highest (\$3.1 million) and South Dakota the lowest (\$5,000). All state library agencies with such expenditures provided statewide database licensing services to public libraries in their state, and at least two-thirds provided statewide database licensing services to each of the following user groups: academic, school, and special libraries, library cooperatives, and other state agencies.
- Over two-thirds (68.0 percent) of total expenditures for statewide database licensing were from state funds, 31.8 percent were from federal sources. Of the states reporting statewide database licensing expenditures, 16 states funded this activity with state dollars only, 16 states used federal dollars only, and 13 states used multiple funding sources.

Here we examine changes in staffing during these years. As with any organization, salaries are a major component of total expenditures. Staffing also influences the availability of all of library services and therefore can be used as a barometer of the availability of these services.

Table 7

Changes in State Library Agency Staffing (FY1995-97 to FY1998-2000)	
	% Change in FTE (FY1995-97 to FY1998-2000)
Administration	- 1%
LSCA/LSTA grants administration	-13%
Development	12%
Total Library Services	3%
Public Services	4%
Technical Services	13%
Other Library Services (library services staff not in public or technical services.)	- 7%
Other Services (e.g. staff in allied operations)	18%
Total Staff	6%

Overall, total staff FTE increased by 6 percent during this period. There was a slight decline in administration FTE and a significant decline in the number of FTE administering LSCA/LSTA grants. During the same period, there was a significant increase in technical services staff

(acquisition, cataloging, serials, binding, and computer services). Public services staff (circulation, reference, children/young adult services, government publications, and interlibrary loan) shows a modest increase.

Examination of changes in data on staff in the StLA survey reports provides two interesting examples of change that may be stimulated, at least in part, by the federal program and planning: The FY1995 ED Tabs (table 12c) showed a total of 158.8 FTE positions for “automation/electronic network development.” The FY2000 report shows (table 14c) 242.7 positions for this function, an increase of 53 percent.

Similarly, the FY2000 report shows 55.2 FTE staff in “marketing/communications.” There was no such category in FY1995—but in 1998 there were 40.3 such FTE positions.

Although “other services staff” (staff not included in other categories such as allied operations) also shows a significant increase, it is a catch-all category that is difficult to trace. During this same period, “other library services” shows a decrease. This is also a catch-all category that includes library services staff not reported under public services or technical services. The fiscal year change for each of these categories is shown in [Appendix G](#).

Regression Analysis

Individuals with a background in statistical methodology may be interested in the relationships between the individual variables. Multivariate regression analysis enables us to statistically test the correlation of independent variables with a single dependant variable, in this case the change in funding from non-federal sources. By examining all variables in a single equation we can test whether a given variable—for example, changes in federal funding—is statistically correlated with the dependent variable—funding from non-federal sources—while all other variables are held constant.

An increase in one source of funding for nonprofit and government agencies frequently corresponds with a decrease in government funding. This effect has been shown for public radio and television, private and public universities, and other nonprofit organizations. The crowding out of one source of revenue by an increase in other sources is the reason federal legislation frequently includes maintenance of effort (MOE) and matching funding requirements. Both LSCA and LSTA have MOE and matching fund requirements.

The LSTA funding increases and changes in total state library agency income is shown state by state in the [Appendix A](#). We can also statistically test whether the increase in LSTA income corresponds with a decrease in state library income from other sources. State library funding increased during the LSTA funding increase, however, this effect could be related to other state variables such as the level of funding for education in a state, personal income, or the governance structure of the state library agency. Regression analysis was used to test for these effects.

Table 8

The Effect of LSTA LSCA on Other Funding Sources for State Library Agencies
 (statistical significance only)

	Log (other funding)	Other funding per capita
LSTA funding (log and per capita)		
LSTA years (=1 if FY1998, FY1999, or FY2000)	+	+
State funding for education	+	+
State personal income	+	+
Governance (=1 if state library is in:)		
Dept of Education	+	+
Dept of Cultural Resources		
Dept of State	+	+
Other Executive Agency	+	+
Population (millions)	+	NA
Population squared (millions)	-	NA

Log () represents the natural logarithm of a number. Population and population squared are included as terms to account for a nonlinear relationship between these variables and the level of funding. The significance of these shows that other funding increases with population at a decreasing rate.

A “+” indicates statistically significant positive coefficient. For example, state funding for education is positively correlated with state Library funding from all sources other than federal funding (both log and per capita). States with higher levels of state funding for education also have higher levels of state library funding from all other sources. A “-” sign indicates that there is a negative relationship.

Statistical significance for variables which equal “1” indicates that when this is true, the level of funding from all other sources is also higher. For example, during the LSTA years (FY1998, FY1999, FY2000) levels of funding from all other sources was higher than during the LSCA years.

Although the level of LSTA funding did not prove to be statistically significant in its correlation with the level of other funding for state library agencies, the LSTA program shows a statistically significant correlation with other funding. In other words, there is no correlation from the amount of federal funding, but there is a correlation with the LSTA legislation. This indicates that the level of funding from all sources other than federal funding—primarily state sources—was higher during the three years of LSTA funding (FY1998, FY1999, and FY2000) than during the three years of LSCA funding (FY1995, FY1996, and FY1997). The regression analysis measured this effect as a 17 percent increase in non-federal funding for state library agencies and a \$0.36 increase in per capita funding for the LSTA years.¹⁰

¹⁰ A fixed-random effects regression model confirms this result. A fixed-random effects model using state stratification and period effects were tested for the effect of the LSTA legislation. This model holds constant the years and states when statistically analyzing the impact of the LSTA years of funding. The value of this model is that it statistically accounts for all state and year effects. The result was that LSTA legislation proved to have a statistically significant effect of

During these years state tax receipts were higher than in the years FY1995-FY1997. However, it is important to note that the nature of regression analysis holds all other included variables constant. The level of personal income in a state and funding on education are included in the equation and therefore are considered constant when measuring the correlation between the LSTA legislation years and non-federal funding for state libraries.

Several governance structures also proved to be statistically significantly positively correlated with state library funding levels from non-federal sources. State library agencies located in state departments of education, state, and other executive agencies have statistically significant higher levels of funding both total and per capita than state library agencies in departments of cultural resources or other governance structures.

Conclusions

The state library survey data provides a wealth of information for fiscal policy analysis of funding for state libraries. In this report we showed the impact of LSTA funding.

LSTA had a significant effect on funding for state library agencies by increasing federal funding, leveraging state and other funding sources, and enabling increases in statewide services and financial assistance to libraries. An income elasticity of 1.16 for statewide services shows that during the years of LSTA funding, expenditures on statewide services increased by a greater percentage (greater than 21 percent) than the increase in LSCA to LSTA funding (18 percent). Financial assistance to libraries also increased during these years. This financial assistance increased to a broader spectrum of libraries including public library systems, academic libraries, multitype-library systems, single agencies, and school library media centers.

Regression analysis show that the three years of the LSTA legislation are positively correlated with increases in non-federal funding for state library agencies both total and per capita. This analysis also shows the governance structures—state library agencies in departments of education, state, and other executive agencies—that are positively correlated with increases in non-federal funding.

The body of annual data reporting for the state library survey is useful for identifying change in state libraries. Although this paper has not analyzed data on collections, electronic services, and other aspects of change that is taking place in the electronic environment, the data show significant changes in staffing affecting both statewide services and financial assistance to libraries.

increasing funding from non-federal sources by 16 percent or \$0.34 for per capita funding between the periods FY1995-FY1997 and FY1998-2000.